

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (currently amended) A method of inhibiting the replication of HCV serotype 1b or 2a/2c replication in an individual comprising administering to said individual a composition comprising an arginine deiminase bonded to polyethylene glycol in an amount effective to inhibit the replication of HCV serotype 1b or 2a/2c replication in said individual.
2. (original) The method of claim 1 further comprising the step of administering to said individual one or more compounds selected from the group consisting of antibiotics, anti-virals, antifungals, and anti-protozoan drugs.
3. (previously presented) The method of claim 1 further comprising the step of administering to said individual one or more additional antiviral compounds.
4. (previously presented) The method of claim 2 wherein said anti-viral compounds are one or more of azidovudine (AZT), didanosine (dideoxyinosine, ddI), d4T, zalcitabine (dideoxycytosine, ddC), nevirapine, lamivudine (epivir, 3TC), saquinavir (Invirase), ritonavir (Norvir), indinavir (Crixivan), delavirdine (Rescriptor), pegylated (PEG) interferon- $\alpha$  (IFN), or ribavirin.
5. (original) The method of claim 1 wherein said composition is administered intramuscularly, intradermally, or intraperitoneally.
6. (previously presented) The method of claim 1 wherein said composition comprising an arginine deiminase bonded to polyethylene glycol is effective at a concentration of less than 1 mM to inhibit viral replication by at least 50%.
7. (original) The method of claim 1 wherein the amount of arginine deiminase bonded to polyethylene glycol effective to inhibit viral replication is between about 40 IU/m<sup>2</sup> and about 160 IU/m<sup>2</sup> per week.

8. (original) The method of claim 1 wherein the amount of arginine deiminase bonded to polyethylene glycol effective to inhibit viral replication is about 160 IU/m<sup>2</sup> per week.

9. (original) The method of claim 1 wherein the amount of arginine deiminase bonded to polyethylene glycol effective to inhibit viral replication lowers plasma arginine levels to less than 5 µM.

10. (original) The method of claim 1 wherein the arginine deiminase is covalently bonded via a linking group to polyethylene glycol, wherein each of said polyethylene glycol molecules has a molecular weight of about 10,000 to about 30,000.

11. (original) The method of claim 1 wherein each of said polyethylene glycol molecules has a molecular weight of about 20,000.

12. (original) The method of claim 10 wherein the linking group is selected from the group consisting of a succinimide group, an amide group, an imide group, a carbamate group, an ester group, an epoxy group, a carboxyl group, a hydroxyl group, a carbohydrate, a tyrosine group, a cysteine group, and a histidine group, and combinations thereof.

13. (original) The method of claim 10 wherein the linking group is succinimidyl succinate.

14-15. (canceled)

16. (original) The method of claim 1 wherein said arginine deiminase is derived from a microorganism of the genus *Mycoplasma*.

17. (original) The method of claim 16 wherein said microorganism is selected from the group consisting of *Mycoplasma arginini*, *Mycoplasma hominus*, *Mycoplasma arthritides* and combinations thereof.

18. (original) The method of claim 1 wherein the arginine deiminase has an amino acid sequence of SEQ ID NO: 1,2,3,4,5,6,7,8,9, 10, 13, 14, 15, 16, 17, 18, 19, 20 or 21.

19. (original) The method of claim 1 wherein the arginine deiminase has an amino acid sequence of SEQ ID NO: 1 or 4.

20-21. (cancelled)

22. (original) The method of claim 1 wherein the virus is HCV1b.

23-24. (cancelled)

25. (currently amended) A method of inhibiting the replication of HCV serotype 1b or 2a/2c ~~replication~~ in an individual who has been identified as having been infected with HCV comprising administering to said individual an amount of a composition comprising an arginine deiminase bonded to polyethylene glycol effective to inhibit the replication of HCV serotype 1b or 2a/2c ~~replication~~ in said individual.

26-40. (cancelled)

41. (original) The method of any one of claims 2 or 3 wherein said compound is administered to said individual simultaneously with the administration of said composition comprising arginine deiminase bonded to polyethylene glycol.

42. (currently amended) A method of selectively inhibiting the replication of HCV serotype 1b or 2a/2c ~~replication~~ in an individual in need thereof comprising

administering a therapeutically or prophylactically effective amount of a composition comprising an arginine deiminase bonded to polyethylene glycol to said individual.

43-51. (cancelled)

52. (previously presented) The method of claim 3 wherein the one or more additional antiviral compounds are selected from the group consisting of cyclovir, famciclovir, valacyclovir, ribavirin, interferon or beta globulin.

53. (currently amended) A method of reducing HCV serotype 1b or 2a/2c viral titer in an individual comprising administering to said individual a composition comprising an arginine deiminase bonded to polyethylene glycol in an amount effective to reduce HCV serotype 1b or 2a/2c viral titer in said individual.

54. (previously presented) The method of claim 53 further comprising the step of administering to said individual one or more additional antiviral compounds.

55. (previously presented) The method of claim 53 wherein said composition is administered intramuscularly, intradermally, or intraperitoneally.

56. (previously presented) The method of claim 53 wherein said composition comprising an arginine deiminase bonded to polyethylene glycol is effective at a concentration of less than 1 mM to reduce HCV viral titer by at least 50%.

57. (previously presented) The method of claim 53 wherein the amount of arginine deiminase bonded to polyethylene glycol effective to reduce HCV viral titer is between about 40 IU/m<sup>2</sup> and about 160 IU/m<sup>2</sup> per week.

58. (previously presented) The method of claim 53 wherein the amount of arginine deiminase bonded to polyethylene glycol effective to reduce HCV viral titer is about 160 IU/m<sup>2</sup> per week.

59. (previously presented) The method of claim 53 wherein the amount of arginine deiminase bonded to polyethylene glycol effective to reduce HCV viral titer lowers plasma arginine levels to less than 5  $\mu$ M.

60. (previously presented) The method of claim 53 wherein the arginine deiminase is covalently bonded via a linking group to polyethylene glycol, wherein each of said polyethylene glycol molecules has a molecular weight of about 10,000 to about 30,000.

61. (previously presented) The method of claim 53 wherein each of said polyethylene glycol molecules has a molecular weight of about 20,000.

62. (previously presented) The method of claim 60 wherein the linking group is selected from the group consisting of a succinimide group, an amide group, an imide group, a carbamate group, an ester group, an epoxy group, a carboxyl group, a hydroxyl group, a carbohydrate, a tyrosine group, a cysteine group, and a histidine group, and combinations thereof.

63. (previously presented) The method of claim 60 wherein the linking group is succinimidyl succinate.

64-65. (canceled)

66. (previously presented) The method of claim 53 wherein said arginine deiminase is derived from a microorganism of the genus *Mycoplasma*.

67. (previously presented) The method of claim 66 wherein said microorganism is selected from the group consisting of *Mycoplasma arginini*, *Mycoplasma hominus*, *Mycoplasma arthritides* and combinations thereof.

68. (previously presented) The method of claim 53 wherein the arginine deiminase has an amino acid sequence of SEQ ID NO: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 19, 20 or 21.

69. (previously presented) The method of claim 53 wherein the arginine deiminase has an amino acid sequence of SEQ ID NO: 1 or 4.

70. (previously presented) The method of claim 53 wherein the virus is HCV1b.

71. (previously presented) The method of claim 54 wherein the one or more conventional antiviral medicaments are selected from the group consisting of cyclovir, famciclovir, valacyclovir, ribavirin, interferon or beta globulin.

72. (previously presented) The method of claim 53 wherein the amount of arginine deiminase bonded to polyethylene glycol administered to the individual is about 200 IU/m<sup>2</sup> per week.

73. (previously presented) The method of claim 1 wherein the amount of arginine deiminase bonded to polyethylene glycol administered to the individual is about 200 IU/m<sup>2</sup> per week.